## **ABSTRACT**

The invention concerns arrays, systems and methods for screening compounds, compositions or conditions useful to treat or prevent kidney diseases. These methods are useful to discover, optimize and select compounds, compositions, or conditions that prevent, inhibit, induce, modify, or reverse physical-state transitions, particularly *in-vivo* physical-state transitions relating to disease causing processes such as development and growth of renal calculi. Such compounds, compositions, or conditions can be exploited to treat, prevent or manage the disease itself, the cause of the disease, or the symptoms of the disease.